ites. From this there resulted a notable series of publications. In 1902 his paper on the "Carboniferous Ammonoids of America," 205 pages and 29 plates, was published by the U. S. Geological Survey as Monograph 42. This was followed in 1905 by his paper, with Alpheus Hyatt, entitled "Triassic Cephalopod Genera of America," U. S. Geological Survey Professional Paper 40. It contained 394 pages and 85 plates. In 1914 his paper, "Middle Triassic Marine Invertebrate Faunas of North America," appeared as Professional Paper 83, U. S. Geological Survey, 254 pages and 99 plates, and in 1927 "The Upper Triassic Marine Invertebrate Faunas of North America" was published by the U. S. Geological Survey as Professional Paper 141, with 363 pages and 121 plates. Still another paper, "The Lower Triassic Ammonoids of North America," was completed at the time of his death and will be published by the U. S. Geological Survey.

While the above are Dr. Smith's largest papers and perhaps the most important ones, he published more than fifty others. The high character of his scientific work was recognized by the best scientists of the country when in 1925 he was elected to membership in the National Academy of Sciences and on April 24, 1928, was awarded the Mary Clark Thompson Gold Medal for his research in geology and paleontology.

Dr. Smith was married August 19, 1896, to Miss Frances Norris Rand, of Manitowoc, Wisconsin. They had four children, Mary, Forster, Howard and Charles. The daughter and two sons have graduated from Stanford, and the youngest is still in the university.

In addition to his other work Dr. Smith served on various university committees and in many ways was a very important influence not only in determining the policy of the geology department but of the university as a whole. He belonged to but few scientific societies. He was, however, a very loyal member of the Le Conte Club and attended practically all the meetings. He was much interested in sports of various kinds and as a college student was pitcher for his college baseball team. In later years he became very fond of fishing as a diversion in summer vacations.

Dr. Smith was one of the most kind and lovable men it has ever been my privilege to know. He was uniformly courteous, exceedingly modest and unassuming and possessed the very highest sense of honor. This last was well shown in his scientific work, where he insisted full credit should be given each one for any work done. He gave very freely, however, of his own material to his advanced students.

While we mourn deeply his loss we have the very great satisfaction of having had the privilege of knowing him and of being associated with him for so many years.

SOLON SHEDD

STANFORD UNIVERSITY

## RECENT DEATHS

DR. ALBERT PAUL WEISS, professor of psychology at the Ohio State University, died on April 3, at the age of fifty-one years.

DR. OTTO WALLACH, emeritus professor of chemistry in the University of Bonn, died on March 1, at the age of eighty-four years. Dr. Wallach was awarded a Nobel prize in 1910 for his work on terpenes.

THE death is announced of Dr. Johannes Reinke, professor of botany at Kiel.

PROFESSOR D. HEPBURN, of the department of anatomy of the Cardiff Medical School, University of Wales, died on March 10, at the age of seventy-two years.

*Nature* reports the death of Henry Harries, long connected with the British Meteorological Office, on February 8, at the age of seventy-nine years, and of Professor Carl Emil Hansen Ostenfeld, professor of botany and director of the botanical garden in the University of Copenhagen, on January 16, aged fifty-eight years.

# SCIENTIFIC EVENTS

## GEOPHYSICAL SURVEYS

A SPECIAL exhibition of apparatus and equipment used in geophysical surveys has been opened in the Science Museum, South Kensington. The exhibits, as described in the London *Times*, have been specially selected to illustrate the development of all the important methods used to locate mineral deposits by the use of sensitive physical apparatus, and the display, though preceded by a smaller exhibition in Stockholm last year, is the first attempt to assemble on a large scale instruments up to the most modern examples. Details of field operations and the technique of the various methods are illustrated by photographs and diagrams, and examples are shown in maps and large scale plans of the results obtained by geophysical surveys in various parts of the world.

The exhibition begins by illustrating general magnetic principles, through specimens of William Gilbert's "terrella" or circular loadstone of date about 1600, specimens of which are lent by the Royal Society. The sixteenth-century sundial compass, and the wooden-bowled mariner's compass of the mid-sev-

enteenth century are shown for comparison with the Chinese geomancer's compass, and the various forms of dip circle which show the natural inclination of the compass needle. The magnetic compass was used in special forms of design for mining purposes from the middle of the seventeenth century, and it is fairly easy to understand the working of examples lent from Sweden, but the instruments become increasingly complicated as the visitor proceeds, though the "Watts Vertical Variometer," a new type of British instrument evolved in the present year, is neatly and comprehensibly made.

A second method relies upon the gravitational effect exercised by bodies proportionally to their mass, and its practical application to prospecting dates only from 1888, when the Eötvös torsion balance was invented. Progress with instruments involving this method has been particularly rapid in the past five years, and a novel form of apparatus designed by Captain H. Shaw and Mr. E. Lancaster-Jones, two members of the staff of the Science Museum, has recently come into use.

Another section of the exhibition shows the seismic method of investigation, which consists in testing the rate at which a small artificial earthquake (usually an explosion) is propagated over various points, the elasticity of the local crust of the earth being discovered by these means, while the fourth method, that of testing electrical interference by mineral bodies, is shown in a separate range of instruments.

## CUSTOMS DUTIES ON SCIENTIFIC APPARATUS

THE imposition of the appropriate customs duties upon scientific apparatus imported into the United States by the University of Illinois, a state agency, through the port of Chicago, is reported by the *United States Daily* to have been upheld by Justice George M. Young, of the United States Customs Court.

Protest was lodged against this assessment of duty upon the following ground:

> That such merchandise should come in without duty, as being imported by an instrumentality of the Government of the State of Illinois, for use in the execution of a government function and purpose, under the well-established policy of the Federal Government not to tax the states or their agencies and subdivisions.

At the trial it was argued that the Federal Government has no authority to impose duty upon imports made by the State of Illinois.

The attorney for the University of Illinois, Mr. Sveinbjorn Johnson, contended that the exaction complained of is a tax; that the property upon which it is sought to be levied is property used necessarily and exclusively by the University of Illinois as an educational agency; that the university is a state agency, and that education is a governmental function, so that the agencies and properties, used in connection therewith, are exempt from federal taxation as instrumentalities of the state created and used to facilitate the exercise of a governmental as distinguished from a proprietary purpose.

In his opinion, upholding the imposition of the tariff assessment, Judge Young stated:

> If this and similar tariff taxes on goods imported by a state university were raised so high as to prohibit the articles from importation, would that destroy the institution, assuming that it is a governmental instrumentality of the state? If it would, then the tariff is invalid. If not, then it is constitutional.
>
> Counsel for the plaintiff contends that the power to levy such a tax is the power to prevent its use by the consumer. We admit that this is true, but if the University of Illinois were prevented entirely from making importations, would it be destroyed? We believe not.
>
> The existence of the states is in no way threatened by such duties. Even if the duties should be made so high as to preclude their importation, it would not result in destroying the university or seriously impairing its usefulness.
>
> The constitutional implication preventing the Federal Government and the state from taxing each other's agencies must receive a practical construction permitting each government to function with a minimum of interference with the other.
>
> We therefore hold that the plaintiff herein, the University of Illinois, has no constitutional exemption from the payment of duties collected in the case at bar.
>
> The defendant (the Federal Government) is entitled to judgment.

## THE SINNOTT MEMORIAL IN THE CRATER LAKE NATIONAL PARK

VISITORS to Crater Lake National Park, Oregon, next summer will benefit from the recent action of the Carnegie Corporation in donating $5,000 for the furnishing and installation of equipment in the Sinnott Memorial located there.

This structure, authorized by Congress last year in connection with appropriations for the National Park Service, is a memorial to Representative Nicholas J. Sinnott, of Oregon, who took a keen interest in the park and did much to further its use by the public. In providing for the memorial Congress appropriated $10,000 for its construction, acting upon the suggestion of the Honorable Louis C. Cramton, then chairman of the subcommittee of the House Appropriations Committee handling Interior Department appropriations.

The Carnegie fund for the development of the memorial has been transmitted through the National